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L6: Entry 16 of 23

File: USPT

Dec 5, 1995

DOCUMENT-IDENTIFIER: US 5473143 A

TITLE: ATM/POS based electronic mail system

ABPL:

The technical field of the invention generally concerns electronic mail systems. The present invention provides an ATM or POS system having a terminal (22, 24, 26, 28 or 34) and processor (18 or 36) which are connected to an ATM or POS data communications network. The network also includes a store and forward message switch (52) which stores user messages for remote retrieval and use as an electronic mail system (10) on a data communications network (42). Messages can be stored or retrieved through standard ATM or POS terminals, through a service bureau, through touch tone telephones (84) or via modems (76). Messages can be retrieved remotely and sent to a facsimile machine (82), a remote paging device, computer (72) or the like. Message information may include payment of user bills, completion of user financial transactions and transmission of information from a variety of databases. Such message information may be generated and transmitted by the system at times predetermined by the user.

BSPR:

The present invention relates generally to computer data systems for storing and forwarding messages, including text and financial information, and, more particularly to an adaptation of existing worldwide Automated Teller Machine ("ATM") and Point of Sale ("POS") systems that permits users of such systems to receive and send electronic mail and other information.

DEPR:

FIG. 1 depicts a public or privately accessible electronic mail system in accordance with the present invention identified by the general reference character 10. The electronic mail system 10 illustrates a generic Automated Teller Machine or Point of Sale ("ATM/POS") system within the dashed line 12. The generic ATM/POS system 12 includes an ATM/POS subsystem enclosed within the dashed line 14, an ATM data communication network 16, and an ATM institution processor 18.

DEPR:

The user may respond to or originate messages for storage on the store and forward message switch 52 using the terminal 22, 24, 26, 28 or 34 in the same manner as requesting access to stored messages. The electronic mail system 10 authorizes a user to respond to or originate messages in the same way as described above for retrieving messages. The user may aim originate various financial transactions using either visible or encoded data within the message received to authorize bill payment, stock purchase and/or other transactions made possible by having the information from other sources delivered to the terminal with the message. If the ATM/POS subsystem 14 possesses the ability to retain the user's identity and security code information, it is unnecessary for the user to reinsert the debit or credit card 48 and to reenter the security code. A response or a message to be stored on the store and forward message switch 52 may be entered at the terminal 22, 24, 26, 28 or 34 in a variety of different ways. For example, using an ATM/POS subsystem of the type depicted in FIG. 2, the user could respond to or enter a message using either a keyboard or a "pen pad." Alternatively, the terminal 22, 24, 26, 28 or 34 may include an optical character recognition unit (not illustrated in FIG. 2.) to scan a written message 56. A response or new message entered by the user at

the terminal 22, 24, 26, 28 or 34 passes through the clearing house network processor 44 to the user's financial institution processor 46 which must authorize the response or message's storage on the store and forward message switch 52.

DEPR:

An additional feature of the electronic mail system 10 for individuals who themselves are not users of the system 10 is its ability to capture charge information instead of the normal E-Mail system charges that would be appropriate for those with E-Mail service access. This charge capture capability is a necessary part of providing easy service bureau access to the electronic mail system 10. This charge capture information includes charging bills and other payments authorized by the user in excess of the cost of the messages. Such other payments may include, but are not limited to, stock purchases, rent payments, utility payments, credit card payments and the like.

DEPR:

An additional function of the computer terminal entry station 72 is a connection port for additional data base information sources. Such information sources may direct data in digital form and in message format to a user's mailbox in the message switch 52. Such data may include, but is not limited to, weather message information, news message information, stock message information, commodities message information, brokerage message information and other message information on various general topics.

DEPR:

Message generation function 1020 allows a user to set up special sequences which will cause messages to be created, on a periodic or logical basis, to send status messages, or to send messages requesting information from other functions or users in system. An example would be to send a message to a brokerage firm on the system to request a stock quote once a day.

DEPR:

The user responds to messages through a process similar to composing messages, with the only variation being that addressing the message is a modified process. Response may be to the original sender, or to new addressees, or both. The response message is created by the same addressing and composing steps as creating any normal message. The response can also be the initiation of a financial transaction such as paying bills, purchasing stock or other items, or other EDI capabilities, as well as transferring funds or other normal ATM/POS transactions. The composing actions are identical to the composing actions during the step of creating a message as described above.

DEPR:

Message system 10 may additionally connect to a computerized, database system, through a configured computer terminal port 72 and into message switch 52, for deposit into a users mail location. Using this connection 72, the system allows access to digital data such as weather, news, brokerage, stock, commodities and general information and other data that would be beneficial to the user to store on or retrieve from the system. This information may be directed to the users mailbox based on a message request or parameters using the connection 72. This information may then be later retrieved by the user using subsystem 14.

DEPV:

confirmation messages, confirming such things as stock or bond sales or purchases, approval of reservations, and similar activities; and

CLPR:

54. The electronic mail system of claim 52 wherein said computerized database system includes at least one of a database providing news message information, a database providing stock message information, a database providing commodities message information, and a database providing brokerage message information.

CLPR:

71. The method of claim 69 wherein said step of receiving a message from a computerized database system includes receiving said message from a digital database providing at least one of weather message information, news message information, stock message information, commodities message information, brokerage message information and general information on various topics.

CLPV:

a. An Automated Teller Machine or Point of Sale ("ATM/POS") system that includes a plurality of terminals through which the user may request access to said electronic mail system and at which the user may receive a message that has been stored or generate a message for storage in said electronic mail system, said ATM/POS system also including an ATM/POS institution processor which is remote from the plurality of terminals that intercommunicates with the plurality of terminals through an ATM/POS data communication network that is also included in said ATM/POS system; and

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File: USPT

Jun 18, 1991

US-PAT-NO: 5025373

DOCUMENT-IDENTIFIER: US 5025373 A

TITLE: Portable personal-banking system

DATE-ISSUED: June 18, 1991

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US-CL-CURRENT: 705/42; 235/379, 705/70

FIELD-OF-SEARCH: 364/408, 364/406, 380/24.23, 235/379

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

Search Selected

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PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/> 457853	March 1986	Zeidler	380/24
<input type="checkbox"/> 4545023	October 1985	Mizzi	364/709
<input type="checkbox"/> 4575621	March 1986	Dreifus	380/24
<input type="checkbox"/> 4803347	February 1989	Sugahara et al.	235/379

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"Sharp PC-1600 Pocket Computer", Product Literature, Microsearch File of Orbit, An 87-042142.

"Voad Systems", Product Literature, Microsearch File of Orbit AN 85-028510.

"Money Counts-Financial Management Begins at Home", Abstract of Article by John Gregg, Microsearch File of Orbit AN 87-045195.

"Chemical Bank Unveils Pronto", Deborah Wise, InfoWorld, vol. 4, No. 39, 101482 (Abstract from Microsearch of Orbit).

"High Interest in Home Banking", Catherine Kent, PC World, vol. 1, No. 2, p. 6819, 3183 (Abstract from Microsearch File of Orbit).

SmartCom Instruction Manual, p. 1.3, 1984.

"Operator's Guide and Technical Reference Manual" Leading Edge p. 3.

"Home Banking: The Decision Maker's Guide", Myles Maxfield, Jr. et al., pp. 7-3, 7-16.

Wall Street Journal Article, "Citicorp Skips Computer in New Home-Banking Plan", Feb. 28, 1990.

ART-UNIT: 238

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ABSTRACT:

A portable personal banking system comprises a host computer and at least one portable terminal among a variety of terminals including automatic teller machines and personal computers. The portable terminal provides a range of banking services over an automatically dialed-up telephone connection to the host bank computer. The personal terminal comprises a keyboard and display capability with minimal key requirements and display capacity respectively. Furthermore, during a banking mode of operation, control resides in the host bank computer. Consequently, future modifications or additions to banking services may be implemented without any change to the personal terminal. Also, the costs of providing the present portable personal terminal banking terminals are minimal compared with known home information terminals such as videotex terminals or personal computers. Yet, a personal terminal serving system is compatible with a serving system including home or office personal computers equipped with modems, automatic teller machines and other bank service enhancements implemented by the serving bank. Also, during a local mode of operation without the banking system, the terminal serves as a personal banking manager. The personal terminal housing may comprise a front surface for data entry and display and a rear surface comprising a pocket for banking forms and a writing table.

28 Claims, 16 Drawing figures

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DOCUMENT-IDENTIFIER: US 5025373 A

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BSPR:

Traditionally, financial institutions such as banks have been stigmatized by humorous anecdotes related to the convenience to customers of obtaining services. For example, the term "banking hours" has been used to describe the limited nine o'clock to two o'clock banking day as well as the hours of any other business which might provide limited customer access. In order to make banking services more convenient, centrally located main offices of banks have provided geographically distributed branch offices to move their services closer to the customer. Furthermore, such innovations as drive-up teller windows and automatic teller machines have extended the hours of service availability. Such enhancements, however, still require the bank customer to travel to the bank or automatic teller machine to receive service.

BSPR:

Since the mid 1970's, there has been a trend toward the application of existing communication facilities for the transmittal and retrieval of information to and from a central source of information and data processing capability. Because of the universality of the switched telephone connection now available in the United States, AT&T, Knight-Ridder Newspapers, Citibank, IBM, CBS and others have experimented with home videotex and teletex services whereby an unintelligent home information terminal comprising a video quality display, a full alpha-numeric keyboard and a microprocessor-controlled interface is automatically connected over the telephone line to a host computer and database. Some of the services provided in such experiments included instantaneous stock quotations, home shopping, and home banking, the latter of these via an auxiliary connection from the host computer to a bank computer also via a telephone line.

BSPR:

As alluded to above, many banks have subscribed to a so-called network or

individually provide automatic teller machines at locations convenient to customers which are accessible at all hours. A bank customer is able to obtain currency, for example, from an automatic teller machine at a retail establishment where the customer shops. Once a card bearing unique personal information is verified and account information retrieved, currency may be dispensed directly from the machine to the customer. Furthermore, transaction verification is provided by paper printout of a printer associated with the automatic teller machine. Such automatic teller machines are limited in the type of transaction they are capable of performing, i.e. currency dispensing, are expensive, must be maintained and replenished, and are not portable. Furthermore, those which are associated with a so-called network are inherently slow and are prone to customer dissatisfaction.

BSPR:

It is a still further object of the present invention to provide a personal banking terminal serving system which is compatible with other customer service delivery vehicles such as the provision of automatic teller machines and the servicing of home or business customers equipped with personal computers and data modems as well as with internal bank operations such as credit or account verifications by authorized bank employees.

BSPR:

To accomplish these and other objects, a portable personal banking system comprises a bank host computer and a portable personal terminal among other personal or bank teller facilities. The portable personal banking terminal in accordance with the present invention comprises a battery power source and on/off switch, a data modulator/demodulator (modem), a telephone line automatic dialer interface including at least one universal modular jack, a two line, sixteen character per line liquid crystal display, a sixteen key keyboard including numerical and function keys, a non-volatile storage memory for software and unique terminal identification, banking and certain log-on information, a random access memory for temporary data storage comprising a ten to thirty-two line screen memory, and a controller comprising a microprocessor coupled to each of these components.

BSPR:

As briefly described above in connection with the main menu description, some of the information and data processing features available to a bank customer utilizing the present invention include but are not limited to account status inquiry, payment of bills, transfer of funds between accounts, verification of the status of a particular check, credit, debit or deposit, current loan interest rate information, bank hours, locations of automatic teller machines and branch offices and such. Consequently, practically, the only service which may not be providable from such a terminal that is provided by automatic teller machines is cash deposit and withdrawal.

DRPR:

FIG. 4 is yet another overall system block diagram showing the compatibility of the present personal home terminal service with existent home or business personal computer, automatic teller machine and branch bank teller data terminal installations;

DEPR:

Referring now to FIG. 3, there is shown an overall block diagram showing the connection of a personal terminal 1 at the home 28 of a bank customer via the public switched telephone network 30 to the location of a banking or other financial institution 40. Personal terminal 1 automatically dials a prestored or customer entered telephone number of a line to financial institution 40. At financial institution 40, a dial up port of host computer 35 is accessed at which point the "Welcome to Pocket Teller" message is caused to be displayed at personal terminal 1. At financial institution 40, bank personnel access host computer 35 by way of a data terminal or personal computer 36, for example, for updating customer or bank information data stored in an associated database (not shown).

DEPR:

Also, according to FIG. 4, automatic teller machines are served over dedicated telephone lines by means of automatic teller machine controller 63. Bank teller inquiries from branch bank locations are served over dedicated telephone lines by teller controller 65. Teller controller 65, bank host computer 35, and ATM controller 63 all interface with a bank's mainframe computer 50 via a telecommunication processor (TP) controller 67. All require access to the same main bank maintenance account and information database 60 where are stored customer account data and, optionally, current interest rate, bank location and hour data and other accessible data. Home/host computer 35 and database 37 downloaded with data from the mainframe 50 preferably serves as the source for bank information generally. Bill payment, for example, may be accomplished via either home/host computer 35 or mainframe 50 but preferably by home/host computer 35 via database 37.

DEPR:

At box 506, a selection function within the sub-menu list is acted upon by the host computer 35 once a numerical choice is entered and the ENTER key depressed as before. In reply, the host computer leads the customer through a multi-step process such as determining the status of a personal check which may have been cashed or simply provides requested information such as the nearest location of a branch bank or automatic teller machine.

DEPR:

Resource manager 803 must access the memory 801 via file manager 802 or answer queries by accessing mainframe computer 50. To manage input/output to and from the mainframe computer 50, there is provided a storage manager 807 which also interfaces with mainframe manager 808. Responsive to resource manager 803, mainframe manager 808 formats appropriate inquiries and receives data responsive thereto from mainframe computer 50. To manage communications with mainframe computer 50 which must also communicate as shown in FIG. 4 with automatic teller machines, bank tellers and such, there is provided mainframe communications manager 809. Bill manager 811 is called by resource manager 803 for bill payment management. Bill payment output is provided to storage manager 807.